Complete Summary

GUIDELINE TITLE

Screening for impaired visual acuity in older adults: U.S. Preventive Services Task Force recommendation statement.

BIBLIOGRAPHIC SOURCE(S)

U.S. Preventive Services Task Force. Screening for impaired visual acuity in older adults: U.S. Preventive Services Task Force recommendation statement. Ann Intern Med 2009 Jul 7;151(1):37-43, W10. [26 references] PubMed

GUIDELINE STATUS

This is the current release of the guideline.

This release updates a previously published guideline: U.S. Preventive Services Task Force. Guide to clinical preventive services. 2nd ed. Baltimore (MD): Williams & Wilkins; 1996. Chapter 33, Screening for visual impairment. p. 373-82. [63 references]

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Impaired visual acuity due to:

- Uncorrected refractive errors
- Cataracts
- Age-related macular degeneration (AMD)

Note: This guideline does not cover screening for glaucoma. The U.S. Preventive Services Task Force (USPSTF) review and recommendation statement on screening for glaucoma are available on the Agency for Healthcare Research and Quality Web site (www.preventiveservices.ahrq.gov)

GUIDELINE CATEGORY

Prevention
Risk Assessment
Screening

CLINICAL SPECIALTY

Family Practice
Geriatrics
Ophthalmology
Optometry
Preventive Medicine

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Nurses
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

- To summarize the current U.S. Preventive Services Task Force (USPSTF) recommendation and the supporting scientific evidence on screening for visual impairment in adults
- To update the 1996 recommendation on screening for visual acuityÂ impairment in adults

TARGET POPULATION

Adults 65 years or older

INTERVENTIONS AND PRACTICES CONSIDERED

Screening for visual acuity impairment using a visual acuity test (e.g., the Snellen eye chart)

MAJOR OUTCOMES CONSIDERED

Key Question 1: Does vision screening in asymptomatic older adults result in improved morbidity or mortality or improved quality of life?

Key Question 2: Are there harms of vision screening in asymptomatic older adults?

Key Question 3: What is the accuracy of screening for early impairment in visual acuity due to uncorrected refractive error, cataracts, or age-related macular degeneration (AMD)?

Key Question 4: Does treatment of early impairment in visual acuity due to uncorrected refractive error, cataracts, or AMD lead to improved morbidity or mortality or quality of life?

Key Question 5: Are there harms of treating early impairment in visual acuity due to uncorrected refractive error, cataracts, or AMD?

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Note from the National Guideline Clearinghouse (NGC): A targeted, updated systematic evidence review was prepared by the Oregon Evidence-based Practice Center (EPC) for use by the U.S. Preventive Services Task Force (USPSTF) (see the "Availability of Companion Documents" field).

Data Sources

The Cochrane Central Register of Controlled Trials and the Cochrane Database of Systematic Reviews (through Issue 3, 2008) and MEDLINE databases (1996 to July 2008) were searched for relevant studies (see Appendix Table 1, available at www.annals.org, for the full search strategy). These searches were supplemented with reviews of reference lists of relevant articles, including the previous USPSTF review.

Study Selection

See the Study Flow Diagram in the evidence review (see the "Availability of Companion Documents" field) for the flow of studies from initial identification of titles and abstracts to final inclusion or exclusion. The EPC reviewers selected studies pertaining to screening, diagnosis, and treatment of impaired visual acuity in older adults on the basis of predefined inclusion and exclusion criteria (Appendix Table 2, available at www.annals.org). Two reviewers evaluated each study at the title or abstract and full-text article stages to determine eligibility for inclusion.

The target sample was adults 65 years of age or older evaluated in primary care settings who were not known to have impaired visual acuity or had known but inadequately corrected refractive error. Impaired visual acuity was defined as worse than 20/40 but better than 20/200. Reviewers included studies of vision screening in eye specialty settings but evaluated their applicability to primary care

settings. They excluded studies of strictly community- or home-based vision screening but included mixed studies of home and clinic-based screening if 70% or more of patients were evaluated in clinic settings. For diagnosis, the reviewers evaluated accuracy of screening questions, visual acuity testing, the Amsler grid, and physical examination. For treatments, they evaluated corrective lenses and photorefractive surgery for uncorrected refractive errors; cataract surgery for cataracts; antioxidants or vitamins for dry age-related macular degeneration (AMD); and laser photocoagulation, photodynamic therapy, and vascular endothelial growth factor inhibitors for wet AMD. The full evidence report reviews other interventions (see "Availability of Companion Documents" field). Outcomes of interest were visual acuity, vision-related function or quality of life, general function or quality of life, falls, accidents, death, and harms related to screening or treatment. Studies of glaucoma or diabetes were excluded. Screening for glaucoma is not based on evaluations of visual acuity and is addressed elsewhere by the USPSTF. Screening for diabetic retinopathy typically occurs in patients known to have diabetes.

For diagnostic accuracy, studies that compared a screening test with a reference standard were included. Reviewers used randomized, controlled trials (RCTs) to assess the effectiveness and harms of screening and various treatments. If RCTs were not available or evidence was sparse, they also used controlled observational studies. Because many systematic reviews have been conducted on treatments for impaired visual acuity, EPC reviewers included good-quality systematic reviews of randomized trials on the effectiveness or harms of treatment and fair- or good-quality systematic reviews of observational studies when no randomized trials were available (after verifying data abstraction and statistical analyses).

NUMBER OF SOURCE DOCUMENTS

A total of 307 articles were reviewed for relevance, 60 of which were included in the final report.

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Note from the National Guideline Clearinghouse (NGC): A targeted, updated systematic evidence review was prepared by the Oregon Evidence-based Practice

Center (EPC) for use by the U.S. Preventive Services Task Force (USPSTF) (see the "Availability of Companion Documents" field).

Data Extraction and Quality Assessment

One investigator abstracted data, and another checked the abstracted data. EPC reviewers abstracted details about the patient sample, study design, data analysis methods, follow-up, and results. They used predefined criteria developed by the USPSTF to assess the internal validity of primary studies. EPC reviewers independently abstracted and rated all placebo-controlled randomized, controlled trials (RCTs), regardless of inclusion status in previously published systematic reviews. For randomized trials, EPC reviewers assessed methods of randomization, allocation concealment, and blinding; loss to follow-up; and use of intention-to-treat analysis. For cluster randomized trials (trials that randomly assigned patients in groups according to which clinic they attended), they also evaluated whether the study adjusted for the effects of clustering (cluster-correlation correction). For systematic reviews, they abstracted information on search methods, dates of searches, selection of studies, and data synthesis methods. EPC reviewers rated quality by using criteria described in Appendix Table 3 (available at www.annals.org). Two authors independently rated the internal validity of each study as "good," "fair," or "poor," on the basis of the number and seriousness of methodological shortcomings. They assessed the potential applicability of studies to primary care on the basis of whether patients were recruited from primary care settings, the proportion of patients with mild to moderate vision impairment, and whether the screening intervention was or could be done in most primary care settings. EPC reviewers resolved discrepancies in quality ratings by discussion and consensus.

For diagnostic accuracy studies, EPC reviewers used the diagti procedure in Stata, version 10 (StataCorp, College Station, Texas), to calculate sensitivities, specificities, and likelihood ratios. They used the cci procedure to calculate diagnostic odds ratios (ORs) with exact confidence intervals (CIs). They classified likelihood ratios as "large," "moderate," or "small" on the basis of the criteria shown in Table 1 of the evidence review (see "Availability of Companion Documents" field).

Data Synthesis and Analysis

EPC reviewers assessed the overall strength of each body of evidence by using methods developed by the USPSTF. For screening and diagnostic accuracy, reviewers did not attempt to pool results of individual studies owing to heterogeneity in study samples, screening interventions, or diagnostic tests and results. For efficacy of treatments, they reported quantitative estimates for treatment effects from previously published systematic reviews that met quality criteria. When reviewers identified RCTs not included in previous reviews, they calculated updated, pooled relative risks (RRs) by using the Mantel–Haenszel random-effects model (Review Manager, version 4.2.8, The Nordic Cochrane Center, Copenhagen, Denmark).

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Balance Sheets
Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The U.S. Preventive Services Task Force (USPSTF) systematically reviews the evidence concerning both the benefits and harms of widespread implementation of a preventive service. It then assesses the certainty of the evidence and the magnitude of the benefits and harms. On the basis of this assessment, the USPSTF assigns a letter grade to each preventive service signifying its recommendation about provision of the service (see Table below). An important, but often challenging, step is determining the balance between benefits and harms to estimate "net benefit" (that is, benefits minus harms).

Table 1. U.S. Preventive Services Task Force Recommendation Grid*

Certainty of Net Benefit	**Magnitude of Net Benefit**			
	Substantial	**Moderate**	**Small**	**Zero/Negative**
High	A	B	C	D
Moderate	B	B	C	D
Low	Insufficient			

**A*, *B*, *C*, *D*, and *I (Insufficient)* represent the letter grades of recommendation or statement of insufficient evidence assigned by the U.S. Preventive Services Task Force after assessing certainty and magnitude of net benefit of the service (see the "Rating Scheme for the Strength of the Recommendations" field).

The overarching question that the Task Force seeks to answer for every preventive service is whether evidence suggests that provision of the service would improve health outcomes if implemented in a general primary care population. For screening topics, this standard could be met by a large randomized, controlled trial (RCT) in a representative asymptomatic population with follow-up of all members of both the group "invited for screening" and the group "not invited for screening."

Direct RCT evidence about screening is often unavailable, so the Task Force considers indirect evidence. To guide its selection of indirect evidence, the Task Force constructs a "chain of evidence" within an analytic framework. For each key question, the body of pertinent literature is critically appraised, focusing on the following 6 questions:

1. Do the studies have the appropriate research design to answer the key question(s)?
2. To what extent are the existing studies of high quality? (i.e., what is the internal validity?)
3. To what extent are the results of the studies generalizable to the general U.S. primary care population and situation? (i.e., what is the external validity?)
4. How many studies have been conducted that address the key question(s)? How large are the studies? (i.e., what is the precision of the evidence?)
5. How consistent are the results of the studies?

6. Are there additional factors that assist us in drawing conclusions (e.g., presence or absence of dose–response effects, fit within a biologic model)?

The next step in the Task Force process is to use the evidence from the key questions to assess whether there would be net benefit if the service were implemented. In 2001, the USPSTF published an article that documented its systematic processes of evidence evaluation and recommendation development. At that time, the Task Force's overall assessment of evidence was described as good, fair, or poor. The Task Force realized that this rating seemed to apply only to how well studies were conducted and did not fully capture all of the issues that go into an overall assessment of the evidence about net benefit. To avoid confusion, the USPSTF has changed its terminology. Whereas individual study quality will continue to be characterized as good, fair, or poor, the term *certainty* will now be used to describe the Task Force's assessment of the overall body of evidence about net benefit of a preventive service and the likelihood that the assessment is correct. Certainty will be determined by considering all 6 questions listed above; the judgment about certainty will be described as high, moderate, or low.

In making its assessment of certainty about net benefit, the evaluation of the evidence from each key question plays a primary role. It is important to note that the Task Force makes recommendations for real-world medical practice in the United States and must determine to what extent the evidence for each key question—even evidence from screening RCTs or treatment RCTs—can be applied to the general primary care population. Frequently, studies are conducted in highly selected populations under special conditions. The Task Force must consider differences between the general primary care population and the populations studied in RCTs and make judgments about the likelihood of observing the same effect in actual practice.

It is also important to note that 1 of the key questions in the analytic framework refers to the potential harms of the preventive service. The Task Force considers the evidence about the benefits and harms of preventive services separately and equally. Data about harms are often obtained from observational studies because harms observed in RCTs may not be representative of those found in usual practice and because some harms are not completely measured and reported in RCTs.

Putting the body of evidence for all key questions together as a chain, the Task Force assesses the certainty of net benefit of a preventive service by asking the 6 major questions listed above. The Task Force would rate a body of convincing evidence about the benefits of a service that, for example, derives from several RCTs of screening in which the estimate of benefits can be generalized to the general primary care population as "high" certainty (see the "Rating Scheme for the Strength of Recommendations" field). The Task Force would rate a body of evidence that was not clearly applicable to general practice or has other defects in quality, research design, or consistency of studies as "moderate" certainty. Certainty is "low" when, for example, there are gaps in the evidence linking parts of the analytic framework, when evidence to determine the harms of treatment is unavailable, or when evidence about the benefits of treatment is insufficient. Table 4 in the methodology document listed below (see "Availability of Companion Documents" field) summarizes the current terminology used by the Task Force to

describe the critical assessment of evidence at all 3 levels: individual studies, key questions, and overall certainty of net benefit of the preventive service.

Sawaya GF et al. Update on the methods of the U.S. Preventive Services Task Force: estimating certainty and magnitude of net benefit. Ann Intern Med. 2007;147:871-875.[5 references].

I Statements

For I statements, the USPSTF has a new plan to commission its Evidence-based Practice Centers to collect information in 4 domains pertinent to clinical decisions about prevention and to report this information routinely. This plan is described in a paper that was published with the Skin Cancer recommendation: Petitti DB et al. Update on the Methods of the U.S. Preventive Services Task Force: Insufficient Evidence. *Ann Intern Med*. 2009;150:199-205. www.annals.org

The first domain is potential preventable burden of suffering from the condition. When evidence is insufficient, provision of an intervention designed to prevent a serious condition (such as dementia) might be viewed more favorably than provision of a service designed to prevent a condition that does not cause as much suffering (such as rash). The USPSTF recognized that "burden of suffering" is subjective and involves judgment. In clinical settings, it should be informed by patient values and concerns.

The second domain is potential harm of the intervention. When evidence is insufficient, an intervention with a large potential for harm (such as major surgery) might be viewed less favorably than an intervention with a small potential for harm (such as advice to watch less television). The USPSTF again acknowledges the subjective nature and the difficulty of assessing potential harms: For example, how bad is a "mild" stroke?

The third domain is cost—not just monetary cost, but opportunity cost, in particular the amount of time a provider spends in order to provide the service, the amount of time the patient spends to partake of it, and the benefits that might derive from alternative uses of the time or money for patients, clinicians, or systems. Consideration of clinician time is especially important for preventive services with only insufficient evidence because providing them could "crowd out" provision of preventive services with proven value, services for conditions that require immediate action, or services more desired by the patient. For example, a decision to routinely inspect the skin could take up the time available to discuss smoking cessation, or to address an acute problem or a minor injury that the patient considers important.

The fourth domain is current practice. This domain was chosen because it is important to clinicians for at least 2 reasons. Clinicians justifiably fear that not doing something that is done on a widespread basis in the community may lead to litigation. More important, addressing patient expectations is a crucial part of the clinician–patient relationship in terms of building trust and developing a collaborative therapeutic relationship. The consequences of not providing a service that is neither widely available nor widely used are less serious than not providing a service accepted by the medical profession and thus expected by patients. Furthermore, ingrained care practices are difficult to change, and efforts should

preferentially be directed to changing those practices for which the evidence to support change is compelling.

Although the reviewers did not explicitly recognize it when these domains were chosen, the domains all involve consideration of the potential consequences—for patients, clinicians, and systems—of providing or not providing a service. Others writing about medical decision making in the face of uncertainty have suggested that the consequences of action or inaction should play a prominent role in decisions.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

What the United States Preventive Services Task Force (USPSTF) Grades Mean and Suggestions for Practice

Grade	Grade Definitions	Suggestions for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer or provide this service.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.	Offer or provide this service.
C	The USPSTF recommends against routinely providing the service. There may be considerations that support providing the service in an individual patient. There is moderate or high certainty that the net benefit is small.	Offer or provide this service only ifÂ other considerationsÂ supportÂ offering or providing the service in an individual patient.
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.	Discourage the use of this service.
I Statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality or conflicting, and the balance of benefits and harms cannot be determined.	Read "Clinical Considerations" section of USPSTF Recommendation Statement (see "Major Recommendations" field). If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

USPSTF Levels of Certainty Regarding Net Benefit

Definition: The U.S. Preventive Services Task Force defines certainty as "likelihood that the USPSTF assessment of the net benefit of a preventive service is correct." The net benefit is defined as benefit minus harm of the preventive service as implemented in a general, primary care population. The USPSTF assigns a certainty level based on the nature of the overall evidence available to assess the net benefit of a preventive service.

Level of Certainty	Description
High	The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.
Moderate	The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by factors such as: • The number, size, or quality of individual studies • Inconsistency of findings across individual studies • Limited generalizability of findings to routine primary care practice • Lack of coherence in the chain of evidence As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion.
Low	The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of: • The limited number or size of studies • Important flaws in study design or methods • Inconsistency of findings across individual studies • Gaps in the chain of evidence • Findings not generalizable to routine primary care practice • A lack of information on important health outcomes More information may allow an estimation of effects on health outcomes.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Comparison with Guidelines from Other Groups
External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Peer Review. Before the U.S. Preventive Services Task Force makes its final determinations about recommendations on a given preventive service, the Evidence-Based Practice Center and the Agency for Healthcare Research and Quality send a draft evidence review to 4 to 6 external experts and to federal agencies and professional and disease-based health organizations with interests in the topic. They ask the experts to examine the review critically for accuracy and completeness and to respond to a series of specific questions about the document. After assembling these external review comments and documenting the proposed response to key comments, the topic team presents this information to the Task Force in memo form. In this way, the Task Force can consider these external comments before it votes on its recommendations about the service. Draft recommendation statements are then circulated for comment from reviewers representing professional societies, voluntary organizations and Federal agencies. These comments are discussed before the final recommendations are confirmed.

Comparison with Guidelines from Other Groups. Recommendations for screening from the following groups were discussed: American Academy of Ophthalmology, American Optometric Association Consensus Panel on Comprehensive Adult Eye and Vision Examination, American Academy of Family Physicians, and the American College of Obstetricians and Gynecologists.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The US Preventive Services Task Force (USPSTF) grades its recommendations (A, B, C, D, or I) and identifies the Levels of Certainty regarding Net Benefit (High, Moderate, and Low). The definitions of these grades can be found at the end of the "Major Recommendations" field.

Summary of Recommendations and Evidence

The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for visual acuity for the improvement of outcomes in older adults. **This is an I statement.**

Clinical Considerations

Patient Population Under Consideration

This recommendation statement applies to adults 65 years or older.

Assessment of Risk

Older age is an important risk factor for most types of visual impairment. Additional risk factors for cataracts are smoking, alcohol use, exposure to ultraviolet light, diabetes, corticosteroid use, and black race. Risk factors for age-

related macular degeneration (AMD) include smoking, family history, and white race.

Screening Tests

A visual acuity test (e.g., the Snellen eye chart) is the usual method for screening for visual acuity impairment in the primary care setting. Screening questions are not as accurate as visual acuity testing for identifying visual acuity impairment. Evidence is limited on the use of other vision tests, including pinhole testing, the Amsler grid (a chart used to test central vision in order to detect AMD), or funduscopy (visual inspection of the interior of the eye), in screening in primary care to detect visual impairment due to AMD or cataracts.

Treatment

Most older adults will need some type of corrective lenses. The treatment for cataracts is surgical removal of the cataract. Treatments for exudative (or wet) AMD include laser photocoagulation, verteporfin, and intravitreal injections of vascular endothelial growth factor inhibitors. Antioxidant vitamins and minerals are treatments for dry AMD, but evidence about their effectiveness is limited.

Other Approaches to Prevention

This recommendation does not cover screening for glaucoma. The USPSTF review and recommendation statement on screening for glaucoma are available on the Agency for Healthcare Research and Quality Web site (www.preventiveservices.ahrq.gov). The USPSTF is updating the review and recommendation on fall prevention, which will be available at the above Web site.

Other Considerations

Costs

Given the high prevalence of vision disorders, implementation of universal screening could lead to substantial costs to the health care system. These costs would include opportunity costs for time spent administering the visual acuity test; costs of treating asymptomatic vision disorders; and an unknown amount of resources spent on potential complications of screening, including falls.

Definitions:

What the United States Preventive Services Task Force (USPSTF) Grades Mean and Suggestions for Practice

Grade	Grade Definitions	Suggestions for Practice
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Grade	Grade Definitions	Suggestions for Practice
	the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.	
C	The USPSTF recommends against routinely providing the service. There may be considerations that support providing the service in an individual patient. There is moderate or high certainty that the net benefit is small.	Offer or provide this service only if other considerationsÂ supportÂ offering or providing the service in an individual patient.
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.	Discourage the use of this service.
I Statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality or conflicting, and the balance of benefits and harms cannot be determined.	Read "Clinical Considerations" section of USPSTF Recommendation Statement (see "Major Recommendations" field). If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

USPSTF Levels of Certainty Regarding Net Benefit

Definition: The U.S. Preventive Services Task Force defines certainty as "likelihood that the USPSTF assessment of the net benefit of a preventive service is correct." The net benefit is defined as benefit minus harm of the preventive service as implemented in a general, primary care population. The USPSTF assigns a certainty level based on the nature of the overall evidence available to assess the net benefit of a preventive service.

Level of Certainty	Description
High	The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.
Moderate	The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by factors such as:

Level of Certainty	Description
	• The number, size, or quality of individual studies • Inconsistency of findings across individual studies • Limited generalizability of findings to routine primary care practice • Lack of coherence in the chain of evidence As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion.
Low	The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of: • The limited number or size of studies • Important flaws in study design or methods • Inconsistency of findings across individual studies • Gaps in the chain of evidence • Findings not generalizable to routine primary care practice • A lack of information on important health outcomes More information may allow an estimation of effects on health outcomes.

CLINICAL ALGORITHM(S)

None available

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for the recommendation.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Benefits of Detection and Early Treatment

There is inadequate direct evidence that screening and early interventions for impairment of visual acuity by primary care physicians improve functional outcomes in older adults. The U.S. Preventive Services Task Force (USPSTF) found adequate evidence that early treatment of refractive error, cataracts, and age-related macular degeneration (AMD) improves or prevents loss of visual acuity. Although the USPSTF found adequate evidence that treatment of refractive error improves visual acuity, there was inadequate evidence that these improvements improve functional outcomes.

POTENTIAL HARMS

Harms of Detection and Early Treatment

There is adequate evidence that early treatment of refractive error, cataracts, and age-related macular degeneration (AMD) may lead to harms that are small.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- The U.S. Preventive Services Task Force (USPSTF) makes recommendations about preventive care services for patients without recognized signs or symptoms of the target condition.
- Recommendations are based on a systematic review of the evidence of the benefits and harms and an assessment of the net benefit of the service.
- The USPSTF recognizes that clinical or policy decisions involve more considerations than this body of evidence alone. Clinicians and policymakers should understand the evidence but individualize decision making to the specific patient or situation.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

The experiences of the first and second U.S. Preventive Services Task Force (USPSTF), as well as that of other evidence-based guideline efforts, have highlighted the importance of identifying effective ways to implement clinical recommendations. Practice guidelines are relatively weak tools for changing clinical practice when used in isolation. To effect change, guidelines must be coupled with strategies to improve their acceptance and feasibility. Such strategies include enlisting the support of local opinion leaders, using reminder systems for clinicians and patients, adopting standing orders, and audit and feedback of information to clinicians about their compliance with recommended practice.

In the case of preventive services guidelines, implementation needs to go beyond traditional dissemination and promotion efforts to recognize the added patient and clinician barriers that affect preventive care. These include clinicians' ambivalence about whether preventive medicine is part of their job, the psychological and practical challenges that patients face in changing behaviors, lack of access to health care or of insurance coverage for preventive services for some patients, competing pressures within the context of shorter office visits, and the lack of organized systems in most practices to ensure the delivery of recommended preventive care.

Dissemination strategies have changed dramatically in this age of electronic information. While recognizing the continuing value of journals and other print formats for dissemination, the Agency for Healthcare Research and Quality will make all U.S. Preventive Services Task Force (USPSTF) products available through

its Web site. The combination of electronic access and extensive material in the public domain should make it easier for a broad audience of users to access U.S. Preventive Services Task Force materials and adapt them for their local needs. Online access to U.S. Preventive Services Task Force products also opens up new possibilities for the appearance of the annual, pocket-size *Guide to Clinical Preventive Services*.

To be successful, approaches for implementing prevention have to be tailored to the local level and deal with the specific barriers at a given site, typically requiring the redesign of systems of care. Such a systems approach to prevention has had notable success in established staff-model health maintenance organizations, by addressing organization of care, emphasizing a philosophy of prevention, and altering the training and incentives for clinicians. Staff-model plans also benefit from integrated information systems that can track the use of needed services and generate automatic reminders aimed at patients and clinicians, some of the most consistently successful interventions. Information systems remain a major challenge for individual clinicians' offices, however, as well as for looser affiliations of practices in network-model managed care and independent practice associations, where data on patient visits, referrals, and test results are not always centralized.

IMPLEMENTATION TOOLS

Foreign Language Translations
Patient Resources
Personal Digital Assistant (PDA) Downloads
Pocket Guide/Reference Cards
Staff Training/Competency Material
Tool Kits

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

U.S. Preventive Services Task Force. Screening for impaired visual acuity in older adults: U.S. Preventive Services Task Force recommendation statement. Ann Intern Med 2009 Jul 7;151(1):37-43, W10. [26 references] PubMed

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1996 (revised 2009 Jul 7)

GUIDELINE DEVELOPER(S)

United States Preventive Services Task Force - Independent Expert Panel

GUIDELINE DEVELOPER COMMENT

The U.S. Preventive Services Task Force (USPSTF) is a federally-appointed panel of independent experts. Conclusions of the USPSTF do not necessarily reflect policy of the U.S. Department of Health and Human Services (DHHS) or its agencies.

SOURCE(S) OF FUNDING

United States Government

GUIDELINE COMMITTEE

U.S. Preventive Services Task Force (USPSTF)

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

*Task Force Members**: Ned Calonge, MD, MPH, *Chair* (Colorado Department of Public Health and Environment, Denver, Colorado); Diana B. Petitti, MD, MPH, *Vice-Chair* (Arizona State University, Phoenix, Arizona); Thomas G. DeWitt, MD (Children's Hospital Medical Center, Cincinnati, Ohio); Allen J. Dietrich, MD (Dartmouth Medical School, Hanover, New Hampshire); Kimberly D. Gregory, MD, MPH (Cedars-Sinai Medical Center, Los Angeles, California); David Grossman, MD (Group Health Cooperative, Seattle, Washington); George Isham, MD, MS (HealthPartners, Minneapolis, Minnesota); Michael L. LeFevre, MD, MSPH (University of Missouri School of Medicine, Columbia, Missouri); Rosanne M. Leipzig, MD, PhD (Mount Sinai School of Medicine, New York, New York): Lucy N. Marion, PhD, RN (School of Nursing, Medical College of Georgia, Augusta, Georgia); Bernadette Melnyk, PhD, RN (Arizona State University College of Nursing & Health Innovation, Phoenix, Arizona); Virginia A. Moyer, MD, MPH (University of Texas Health Science Center, Houston, Texas); Judith K. Ockene, PhD (University of Massachusetts Medical School, Worcester, Massachusetts); George F. Sawaya, MD (University of California, San Francisco, San Francisco, California); J. Sanford Schwartz, MD (University of Pennsylvania Medical School and the Wharton School, Philadelphia, Pennsylvania); and Timothy Wilt, MD, MPH

(University of Minnesota Department of Medicine and Minneapolis Veteran Affairs Medical Center, Minneapolis, Minnesota)

**Members of the Task Force at the time this recommendation was finalized. For a list of current Task Force members, go to www.ahrq.gov/clinic/uspstfab.htm.*

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

The U.S. Preventive Services Task Force has an explicit policy concerning conflict of interest. All members disclose at each meeting if they have a significant financial, professional/business, or intellectual conflict for each topic being discussed. Task Force members with conflicts may be recused from discussing or voting on recommendations about the topic in question.

GUIDELINE STATUS

This is the current release of the guideline.

This release updates a previously published guideline: U.S. Preventive Services Task Force. Guide to clinical preventive services. 2nd ed. Baltimore (MD): Williams & Wilkins; 1996. Chapter 33, Screening for visual impairment. p. 373-82. [63 references]

GUIDELINE AVAILABILITY

Electronic copies: Available from the U.S. Preventive Services Task Force (USPSTF) Web site and from the Annals of Internal Medicine Web site.

Print copies: Available from the Agency for Healthcare Research and Quality (AHRQ) Publications Clearinghouse. For more information, go to http://www.ahrq.gov/news/pubsix.htm or call 1-800-358-9295 (U.S. only).

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

Evidence Review:

- Screening older adults for impaired visual acuity: a review of the evidence for the U.S. Preventive Services Task Force. Ann Intern Med. 2009 Jul 7;151:44-58. Electronic copies: Available from the Annals of Internal Medicine Web site.

The following are also available:

- Screening for impaired visual acuity in older adults: clinical summary of U.S. Preventive Services Task Force recommendation. Rockville (MD): Agency for Healthcare Research and Quality, 2009 Jul. Electronic copies: Available from the U.S. Preventive Services Task Force Web site.
- A continuing medical education (CME) activity is available from the Annals of Internal Medicine Web site.

Background Articles:

- Barton M et al. How to read the new recommendation statement: methods update from the U.S. Preventive Services Task Force. Ann Intern Med. 2007;147:123-127.
- Guirguis-Blake J et al. Current processes of the U.S. Preventive Services Task Force: refining evidence-based recommendation development. Ann Intern Med. 2007;147:117-122. [2 references]
- Sawaya GF et al. Update on the methods of the U.S. Preventive Services Task Force: estimating certainty and magnitude of net benefit. Ann Intern Med. 2007;147:871-875. [5 references].
- Petitti DB, Teutsch SM, Barton MB, Sawaya GF, Ockene JK, DeWitt T. Update on the methods of the U.S. Preventive Services Task Force: insufficient evidence. Ann Intern Med. 2009;150:199-205.

Electronic copies: Available from U.S. Preventive Services Task Force (USPSTF) Web site.

The following is also available:

- The guide to clinical preventive services, 2008. Recommendations of the U.S. Preventive Services Task Force. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ), 2008. 249 p. Electronic copies available from the AHRQ Web site. See the related QualityTool summary on the Health Care Innovations Exchange Web site.

Print copies: Available from the Agency for Healthcare Research and Quality Publications Clearinghouse. For more information, go to http://www.ahrq.gov/news/pubsix.htm or call 1-800-358-9295 (U.S. only).

The Electronic Preventive Services Selector (ePSS), available as a PDA application and a web-based tool, is a quick hands-on tool designed to help primary care clinicians identify the screening, counseling, and preventive medication services that are appropriate for their patients. It is based on current recommendations of the USPSTF and can be searched by specific patient characteristics such as age, sex, and selected behavioral risk factors.

PATIENT RESOURCES

The following are available:

- Summaries for patients. Screening older adults for eyesight problems: U.S. Preventive Services Task Force recommendation. Ann Intern Med 2009 Jul 7; 151(1):I-34. Available from the Annals of Internal Medicine Web site.
- Men: stay healthy at any age. Your checklist for health. Rockville (MD): Agency for Healthcare Research and Quality. AHRQ Pub. No. 07-IP006-A. February 2007. Electronic copies: Available from the USPSTF Web site. See the related QualityTool summary on the Health Care Innovations Exchange Web site.
- Women: stay healthy at any age. Your checklist for health. Rockville (MD): Agency for Healthcare Research and Quality. AHRQ Pub. No. 07-IP005-A.

February 2007. Electronic copies: Available from the USPSTF Web site. See the related QualityTool summary on the Health Care Innovations Exchange Web site.

Print copies: Available in English and Spanish from the Agency for Healthcare Research and Quality (AHRQ) Publications Clearinghouse. For more information, go to http://www.ahrq.gov/news/pubsix.htm or call 1-800-358-9295 (U.S. only).

Myhealthfinder is a new tool that provides personalized recommendations for clinical preventive services specific to the user's age, gender, and pregnancy status. It features evidence-based recommendations from the USPSTF and is available at www.healthfinder.gov.

NGC STATUS

This NGC summary was completed by ECRI Institute on August 21, 2009. The information was verified by the guideline developer on November 11, 2009.

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